UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,098	09/21/2001	Mineo Okamura	FUJZ 19.021(100794-11761)	5081

26304 7590 09/25/2007		EXAMINER
KATTEN MUCHIN ROSENMAN LLP		WONG, WARNER
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NEW YORK, NY 10022-2585	ART UNIT	PAPER NUMBER
	2616	

MAIL DATE	DELIVERY MODE
09/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/960,098	OKAMURA, MINEO
	Examiner	Art Unit
	Warner Wong	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 August 2007</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-11</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-11</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1.   Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee (US

6,59,225).

Regarding claim 1, Lee describes a system comprising:

a managing communication device (fig. 1 or 2, Home Agent 26);

a mobile node managed by the managing communication device (fig. 1 or 2,

mobile node 20);

an accommodating communication device accommodating the mobile node (fig.

1 or 2, foreign agent 28 or 34);

the managing communication device releasing, with a movement of the mobile

node managed, an older tunnel from a plurality of already established tunnels (fig. 1,

col. 5, lines 36-41, 2 tunnels exist before disconnecting the older one. In fact there can

be more than two simultaneous tunnel connections, col. 6, lines 8-11 "can

communication with multiple base stations simultaneously") so as to prevent a number

of all tunnels established between the communication device itself and accommodating

communication device from exceeding a predetermined threshold value (fig. 2-3 and

col. 6, lines 2-5, where in step S6, the Home Agent 26 (communication device)

deregisters/disconnects (releases the older tunnel to/from) the older Foreign Agent 28

(FA), due to movement of mobile wireless node 14 which prompts a handoff, to prevent

more than one (predetermined threshold value) [permanent] tunnel to/from the mobile

14. It is noted that this is different from step S7, where the communication/routing of

data to the old FA is terminated).

Regarding claim 2, Lee further describes that the threshold value comprises a

unique value to each mobile node (col. 6, lines 2-4, where there is the limit of only "1"

tunnel (unique threshold value) to permanently exist for each mobile 14).

Regarding claim 3, Lee describes a communication device which manages a

mobile node (fig. 1 or 2), comprising:

means establishing, with a movement of a mobile node, a tunnel for transferring

a communication packet with the mobile node to an accommodating communication

device accommodating the mobile node at a moved destination (fig. 3, where the Home

Agent 26 (communication device) manages/establishes, with the movement of the

mobile 14 to another location prompting a handover, a new tunnel to the new FA 34

(accommodating mobile node) for data packet communication),

means for controlling a number of a plurality of tunnels to be within a

predetermined number (fig. 2-3 & col. 6, lines 2-5, where in step S6, the Home Agent 26

(communication device) deregisters/disconnects (releases the older tunnel to/from) the

older Foreign Agent 28 (FA), to prevent more than one (predetermined threshold value)

[permanent] tunnel to/from the mobile 14. Col. 5, lines 36-41 indicate that both (plurality

of) tunnels exist before disconnecting the older one.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in

view of Suzuki (US 6,791,946).

Lee describes a system, comprising:

a managing communication device (fig. 1 or 2, Home Agent 26);

a plurality of mobile nodes managed by the managing communication device (fig.

1 is the same network as that of its prior art (col. 1, lines 34-38), where plurality of

mobiles exist, but with improvements);

an accommodating communication device accommodating the mobile node (fig.

1 or 2, foreign agent 28 or 34);

the managing communication device which, when a new tunnel is required to be

established with a movement of a single mobile node to be managed, releases an older

tunnel from a plurality of already established tunnels (col. 5, lines 36-41, both (plurality

of) tunnels exist before disconnecting the older one) corresponding to the single mobile

node to establish the new tunnel when at least one tunnel corresponding to the single

mobile node is established (fig. 2 & 3, & col. 6, lines 2-4, where in step S7, the Home

Agent 26 (communication device) terminates/disconnects (releases the

established/older tunnel to/from) the older Foreign Agent 28 (FA) and the mobile

wireless node 14 due to the mobile's movement which prompts a handoff to establish

another [permanent] new tunnel).

Lee fails to explicitly describe the condition of:

when a number of all tunnels presently established for all mobile nodes by the

communication device itself exceed a predetermined threshold value, and no [new]

tunnel corresponding to the single mobile node is established, rejecting the

establishment of the new tunnel.

Suzuki describes:

when a number of all tunnels presently established for all mobile nodes by the

communication device itself exceed a predetermined threshold value, and no [new]

tunnel corresponding to the single mobile node is established, rejecting the

establishment of the new tunnel (col. 13, lines 21-54, where when the number of all

links (tunnels) represented by the availability of VPI/VCI identifiers reach a

predesignated threshold value, it will pause in granting (rejecting) the establishment of a

new link (tunnel) and release some mapped identifiers (links) before granting).

It would have been obvious to one with ordinary skill in the art at the time of

invention by applicant to incorporate the resource allocation process of Suzuki to the

tunneling allocation process within the Home Agent of Lee.

The motivation for combining the teachings is that there is a need for the device which allocates connection/tunnel resources to prevent existing calls from being dropped, (Suzuki, col. 4, lines 30-34).

3.   **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Suzuki as applied to claim 4 above, and further in view of Baiyor (6,282,429).

Lee and Suzuki fail to describe:

the mobile nodes are classified into a plurality of classes based on a plurality of threshold values, and the establishment of a new connection/tunnel is rejected or executed/allocated based on the threshold value corresponding to the class to which the mobile node belongs.

Baiyor describes:

the mobile nodes are classified into a plurality of classes based on a plurality of threshold values, and the establishment of a new connection/tunnel is rejected or executed/allocated based on the threshold value corresponding to the class to which the mobile node belongs (col. 2, lines 62-63 and col. 5, lines 47-55).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to incorporate the connection determination process based on classification/priorities such as Baiyor to the combined system of Lee and Suzuki.

The motivation for combining the teaching is that "It would be advantageous to identify wireless subscribers who have priority calling before the call origination request consumed significant call processing resources" (col. 2 lines 2-4).

4.   **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in

view of Douglis (6,487,596).

Lee describes a system, comprising:

a managing communication device (fig. 1 or 2, Home Agent 26);

a plurality of mobile nodes managed by the managing communication device (fig.

1 is the same network as that of its prior art (col. 1, lines 34-38), where plurality of

mobiles exist, but with improvements);

an accommodating communication device accommodating the mobile node (fig.

1 or 2, foreign agent 28 or 34);

the managing communication device which establishes, with a movement of the

mobile node managed, a tunnel between the communication device itself and an

accommodating communication device (fig. 3, where the Home Agent 26

(communication device) establishes, with the movement of the mobile 14 to another

location prompting a handover, a new tunnel to the new FA 34 (accommodating mobile

node)).

Lee fails to describe the communication device of:

determining a lifetime of a tunnel, so that when a number of all tunnels presently

used is large the lifetime is shortened.

Douglis describes a modem bank 20 (communication device) of:

determining a lifetime of a tunnel, so that when a number of all tunnels presently

used are large the lifetime is shortened (col. 4, lines 25-31, where the timeout (lifetime)

of a modem connection (of a tunnel) is due to the number of connections/loading of the

modem bank).

It would have been obvious to one with ordinary skill in the art at the time of

invention to incorporate the connection timeout method of Douglis into the

communication device of Lee.

The motivation for combining the teachings is that system resources may be

gained by varying the lifetime of individual connections [tunnels] " a disconnected user

[connection] represents a recovered resources .. that can be used for another user" (col.

2, lines 16-18).

5.   **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in

view of Douglis as applied to claim 6 above, and further in view of Jennings (6,597,774).

Lee and Douglis combined fail to describe:

the lifetime is notified to the mobile node.

Jennings describes:

the lifetime is notified to the mobile node (col. 1, line 32, where remaining time of

the [prepaid] call is notified at the user [mobile node]).

It would have been obvious to one with ordinary skill in the art at the time of

invention to incorporate the feature of informing the connection lifetime to the user as in

Jennings for the combined system of Lee and Douglis.

The motivation for combining the teachings is that this feature of informing the user the lifetime/remaining time to optimize the billing [prevents another call if necessary communication is unfinished when call time is over] (Jennings, col. 1, lines 29-31).

6.   Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Douglis (6,487,596).

Regarding claims 8-9, Douglis describes a method/device (fig. 1, modem bank 20), comprising:

a tunnel number managing unit (col. 4, line 27, load sensitivity means) operable to manage a number of tunnels for a mobile tunnel and to decrease the number of tunnels presently established upon timeout of a lifetime of a tunnel and to increase the number of tunnels presently established upon addition of a new tunnel (col. 4, lines 23-36, load sensitivity means managing number of user (mobile) disconnections (decreasing number of tunnels) and number of connections (addition of new tunnels));

a controller for releasing a tunnel presently established before timeout of a lifetime of a tunnel in case of a value of the number of tunnels which is managed for the mobile terminal by the tunnel number managing unit exceeds a predetermined threshold (col. 4, lines 25-36, the time-out policy (controller) disconnects existing connections (releases presently established connection which are not timed out yet) when the load value managed by the load sensitivity means (tunnel number value managed by the tunnel number managing portion) is beyond a certain load level (exceeds a predetermined threshold)).

Douglis fails to explicitly describe:

a number of tunnels to be added is used to sum with the tunnel number value for comparing with a predetermined threshold.

However, from the reference's citation "From the provider's viewpoint, a disconnected user represents a recovered resource- a modem that can be used for another user" (col. 2, lines 16-18), it would have been obvious to one with ordinary skill in the art at the time of invention to equate the "another user" to be the "number of tunnels to be added" for the Douglis' explanation of disconnecting existing connections when the load value exceeds a certain load level.

The motivation is to allow another future user/connection (tunnel) to be added for network use (col. 2, lines 16-18).

Regarding claims 10-11, Douglis describes a method/device (fig. 1, modem bank 20), comprising:

a tunnel number managing unit (col. 4, line 27, load sensitivity means) operable to manage a number of tunnels for a mobile tunnel and to decrease the number of tunnels presently established upon timeout of a lifetime of a tunnel and to increase the number of tunnels presently established upon addition of a new tunnel (col. 4, lines 23-36, load sensitivity means managing number of user (mobile) disconnections (decreasing number of tunnels) and number of connections (addition of new tunnels));

a controller for operable to regulate a tunnel addition (col. 2, lines 16-18, recovering connection/tunnel resources for new connections (additional tunnels)) in case a value that is the tunnel number managed by the tunnel number managing

portion exceeds a predetermined threshold (col. 4, lines 25-36, the time-out policy (controller) disconnects existing connections (releases presently established connection) when the load value managed by the load sensitivity means (tunnel number value managed by the tunnel number managing portion) is beyond a certain load level (exceeds a predetermined threshold)).

Douglis fails to explicitly describe:

a number of tunnels to be added is used to sum with the tunnel number value for comparing with a predetermined threshold;

However, from the reference's citation "From the provider's viewpoint, a disconnected user represents a recovered resource- a modem that can be used for another user" (col. 2, lines 16-18), it would have been obvious to one with ordinary skill in the art at the time of invention to equate the "another user" to be the "number of tunnels to be added" for the Douglis' explanation of disconnecting existing connections when the load value exceeds a certain load level.

The motivation is to allow another future user/connection (tunnel) to be added for network use (col. 2, lines 16-18).

Response to Arguments

7.   Applicant's arguments filed March 28, 2007 have been fully considered but they are not persuasive.

From p. 6, paragraph 3 to p. 7 paragraph 1, the applicant argues that the amended claim limitations "a plurality of tunnels" distinguishes the instant application

from the Lee reference, that the threshold cannot be consider only as "1". The

examiner respectfully disagrees.

The examiner notes that a <u>mere</u> additional limitation <u>"a plurality of tunnels" can</u>

<u>still be read as two (2) connections</u> as depicted by Lee, fig. 1. Hence, the threshold

<u>can</u> be considered as "1". Moreover, the examiner additionally cites Lee, col. 3, lines 2-

6, that Lee's invention can be broadly understood that there may be <u>one or more</u>

communication pathways. In col. 5, lines 36-42, Lee states that both (all) connections

are still registered before deregistering the old connection, and in col. 6, lines 8-11, Lee

explicitly indicates that his invention can be extended to more than two base stations,

that the mobile node can communication with multiple base stations simultaneously.

On p. 7, the applicant argues that "load and the number of tunnels are not

synonymous. Though an increase in tunnels may include an increase in load, this in not

<u>necessarily</u> the case".

While 'load' and 'number of tunnels are not <u>necessarily</u> related, it **is** related in the

Douglis reference. Douglis describes that it is the [number of] user connections and

reconnections that is affecting the modem pool (abstract), that a <u>disconnected</u>

<u>connection</u> represents a recovered resource for another [new] user connection, and

also the following:

"the time-out policy may be made sensitive to the overall load that the bank of

ISP modems has to deal with. This sensitivity to load can be <u>any function</u> that the ISP

wishes to implement. For example, the sensitivity may be a step function. ... Beyond a

certain load level, the policy may be to start <u>disconnecting [connections]</u>". From the

above, one of ordinary skill in the art can understood or infer that the number of

connections **can** be considered as a step function and as part the load threshold.

From p. 7 paragraph 4 to page 8 paragraph 3, the applicant argues that the

amended claims 8-9 and the new claims 10-11 distinguish themselves from the Douglis

reference. The examiner respectfully disagrees.

The examiner, after careful review, noted that the modifications in claims 8-9

appear to be just rewordings from the previous claims 8-9; no actual new features have

been added.

Hence, Lee and/or Douglis describe/suggest all claim limitations as argued.

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Warner Wong whose telephone number is 571-272-
8197. The examiner can normally be reached on 6:30AM - 3:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Warner Wong
Examiner
Art Unit 2616

KWANG BIN YAO
SUPERVISORY PATENT EXAMINER